

Sub 2/1
1. A vaccine against *Streptococcus pyogenes* infection, comprising:
a physiologically acceptable non-toxic vehicle containing a conserved cysteine
protease.

5 2. The vaccine of claim 1, wherein said cysteine protease is a streptococcal
pyogenic exotoxin B or fragments or derivatives thereof.

3. The vaccine of claim 1, wherein said cysteine protease is a synthetic
peptide.

Sub F2 10 4. The vaccine of claim 1, wherein said streptococcal infection is selected
from the group consisting of pharyngitis, tonsillitis, skin infections, acute
rheumatic fever, scarlet fever, post-streptococcal glomerulonephritis and toxic-
shock-like syndrome.

5. The vaccine of claim 1, further comprising a streptococcal M protein
antigen.

Sub B1 15 6. A method of immunizing humans against *Streptococcus pyogenes* infection,
comprising:

administering the vaccine of claim 1 to said mammal in an amount
sufficient to confer immunity to a *Streptococcus pyogenes* infection.

7. The method of claim 6, wherein said vaccine is given by parenteral
administration.

20 8. The method of claim 7, wherein said parenteral administration is selected

from the group consisting of subcutaneous administration and intramuscular administration.

Sub
I 7

9. The method of claim 6, wherein said vaccine is administered orally.

Sub
I 5
F 4

10. The method of claim 6, wherein said *Streptococcus pyogenes* infection is selected from the group consisting of pharyngitis, tonsillitis, skin infections, acute rheumatic fever, scarlet fever, post-streptococcal glomerulonephritis, sepsis and toxic-shock-like syndrome.

Sub
I 8

11. The method of claim 6, wherein said vaccine is administered in multiple doses.

Sub
I 9

12. A method of immunizing humans against *Streptococcus pyogenes* infection, comprising: administering the vaccine of claim 5 to said human in an amount sufficient to confer immunity to *Streptococcus pyogenes* infection.

Sub
I 12

13. The method of claim 12, wherein said vaccine is given by parenteral administration.

15

14. The method of claim 13, wherein said parenteral administration is selected from the group consisting of subcutaneous administration and intramuscular administration.

Sub
I 10

15. The method of claim 12, wherein said vaccine is administered orally.

16. The method of claim 12, wherein said infection is selected from the group consisting of pharyngitis, tonsillitis, skin infections, acute rheumatic fever, scarlet fever, post-streptococcal glomerulonephritis, sepsis and toxic-shock-like syndrome.

Sub
I II
5

17. The method of claim 12, wherein said vaccine is administered in multiple doses.

add
76

add
H⁺